**UNITED STATES DISTRICT COURT FOR THE EASTERN DISTRICT OF VIRGINIA**

**Norfolk Division**

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| BASF PLANT SCIENCE, LP,<br><br>Plaintiff,<br><br>v.<br><br>COMMONWEALTH SCIENTIFIC AND INDUSTRIAL RESEARCH ORGANISATION,<br><br>Defendant. | ) | C.A. No. 2:17-CV-503-HCM |
| COMMONWEALTH SCIENTIFIC AND INDUSTRIAL RESEARCH ORGANISATION, GRAINS RESEARCH AND DEVELOPMENT CORP., AND NUSEED PTY LTD.,<br><br>Plaintiffs-Counterclaimants,<br><br>v.<br><br>BASF PLANT SCIENCE, LP, AND CARGILL, INCORPORATED,<br><br>Defendants-Counterdefendants,<br><br>BASF PLANT SCIENCE GMBH,<br><br>Counter-Counterclaimant. | ) | JURY TRIAL DEMANDED |

**PROPONENTS' OPPOSITION TO OPPONENTS' RENEWED MOTION FOR JUDGMENT AS A MATTER OF LAW UNDER FED. R. CIV. P. 50(b) OR, IN THE ALTERNATIVE, FOR A NEW TRIAL PURSUANT TO RULE 59(a)**

Commonwealth Scientific and Industrial Research Organisation ("CSIRO"), Grains Research and Development Corporation ("GRDC"), and Nuseed Pty. Ltd. ("Nuseed") (collectively, "Proponents") respectfully request that the Court leave intact the jury's verdict, and decline to enter judgment as a matter of law ("JMOL") or grant a new trial in favor of BASF Plant Science LP ("BASF") and Cargill, Incorporated ("Cargill") (collectively, "Opponents") as to the issues of: (1) the validity of the Group A patents ('357, '579, '880, and '033 patents) and the Group B patent ('792 Patent); (2) the February 2003 conception date for asserted claim 1 of the '357 Patent and asserted claim 2 of the '880 Patent; and (3) the co-ownership of the Group A patents, Group D patent ('541 Patent), and Group E patent ('084 Patent).

First, the Group A and B patents are not invalid for lack of written description. The relevant specifications sufficiently demonstrate that the inventors possessed the claimed subject matter of the asserted claims as Proponents' expert, Dr. Ljerka Kunst, confirmed at trial. Opponents' insistence otherwise is erroneously predicated on a misreading and misapplication of case law concerning specifications setting out a "laundry list" of potential variables. Second, substantial evidence supported the jury's conclusion that the asserted claims of the '357 and '880 patents were conceived of in February 2003. Dr. Surinder Singh testified that the inventors had conceived of all elements of these claims no later than February 2003, and his testimony was corroborated by several contemporaneous documents. Under a "rule of reason" analysis, the jury could have reasonably concluded that Dr. Singh credibly testified about conception. Third, substantial evidence supports the jury's conclusion that none of the claimed subject matter in the Group A, D, and E patents are subject to the ownership provisions of the Materials Transfer and Evaluation Agreement ("MTEA" or "Agreement") as these patents do not claim "Joint New Materials," "Joint Transformed Lines," and "Joint Results" as those terms are defined in the Agreement. This is

especially so where all knowledgeable witnesses about the MTEA testified that CSIRO never used any joint work product developed under the Agreement or confidential BASF information exchanged during the Agreement to prosecute any of the patents-in-suit. Accordingly, the Court should deny Opponents' motions for the reasons set out herein.[1]

## I. LEGAL STANDARDS

Federal Rule of Civil Procedure 50 governs Opponents' motion for a judgment a matter of law ("JMOL"). Rule 50(b) for the renewal of a Rule 50(a) motion after the entry of judgment or discharge of the jury. *See* Fed. R. Civ. P. 50(a), (b).[2] On a Rule 50(b) motion, "[t]he question is whether a jury, viewing the evidence in the light most favorable to [the non-moving party], could have properly reached the conclusion reached by th[e] jury." *In re Wildewood Litig.*, 52 F.3d 499, 502 (4th Cir. 1995) (citing *Austin v. Torrington Co.*, 810 F.2d 416, 420 (4th Cir.), *cert. denied*, 484 U.S. 977 (1987)); *see also Bouchat v. Baltimore Ravens, Inc.*, 241 F.3d 350, 357–58 (4th Cir. 2001) (the jury's verdict must be affirmed if "giving [the non-moving party] the benefit of all reasonable inferences," "there is evidence upon which a reasonable jury could have found in [that party's] favor" (citations omitted)). In other words, the motion must be denied if "there is substantial evidence in the record upon which the jury could find for" the non-moving party. *In re Wildewood*, 52 F.3d at 502 (citing *White v. Cty. of Newberry, S.C.*, 985 F.2d 168, 172 (4th Cir.

[1] For purposes of brevity, Opponents incorporate by reference the facts set out in their previous post-trial briefing. *See* Proponents' Memorandum in Support of Motions for Judgment as a Matter of Law and a New Trial Under Fed. R. Civ. P. 50(b) and 59 (Dkt. No. 853); Proponents' Memorandum in Support of Motions for Judgment as a Matter of Law and a New Trial as to Jury Issues Not Decided by Verdict Under Fed. R. Civ. P. 50(b) and 59 (Dkt. No. 818); *see also* Opinion and Order Regarding Remedies (Dkt. No. 821).

[2] Fourth Circuit law controls matters of procedure that do not implicate substantive patent law, including Rule 50 and 59 motions. *See, e.g.*, *Duro-Last, Inc. v. Custom Seal, Inc.*, 321 F.3d 1098, 1106 (Fed. Cir. 2003).

1993)). The Court does not weigh the evidence or consider the credibility of witnesses in deciding a Rule 50(b) motion. *See, e.g.*, *S. Atl. Ltd. P'ship of Tenn., L.P. v. Riese*, 284 F.3d 518, 532 (4th Cir. 2002). If reasonable minds could differ on the jury's conclusions, the verdict must be affirmed. *See, e.g.*, *Dennis v. Columbia Colleton Med. Ctr., Inc.*, 290 F.3d 639, 645 (4th Cir. 2002). A renewed motion for JMOL may be coupled in the alternative with a motion for a new trial under Rule 59. Fed. R. Civ. P. 50(b). A new trial should only be granted where: "1) the verdict is against the clear weight of the evidence, 2) is based on evidence which is false, or 3) will result in a miscarriage of justice, even though there may be substantial evidence which would prevent the direction of a verdict." *Dennis*, 290 F.3d at 650 (citing *Knussman v. Maryland*, 272 F.3d 625, 639 (4th Cir. 2001)).

## II. ARGUMENT

### A. Opponents' JMOL Should Be Denied Because All of the Challenged Findings Are Supported by Substantial Evidence.

#### 1. The asserted Group A and Group B patent claims are supported by adequate written description.

The jury's finding that the Group A and Group B patents have adequate written description is supported by substantial evidence. In other words, once all reasonable inferences are drawn in favor of Proponents, there is no clear and convincing evidence that these patents are invalid for lack of written description. "[T]he hallmark of written description is disclosure." *Ariad Pharm., Inc. v. Eli Lilly & Co.*, 598 F.3d 1336, 1351 (Fed. Cir. 2010). "Compliance with the written description requirement is essentially a fact-based inquiry that will necessarily vary depending on the nature of the invention claimed." *Allergan, Inc. v. Sandoz Inc.*, 796 F.3d 1293, 1309 (Fed. Cir. 2015) (quoting *Enzo Biochem, Inc. v. Gen-Probe Inc.*, 323 F.3d 956, 963 (Fed. Cir. 2002)).

Opponents' argument is premised on the same mischaracterization of the legal standard for

written description they asserted during trial, and which was expressly rejected by the Court. *See, e.g.*, Trial Tr. at 1937:21–1940:4 (for written description, "[y]ou don't have to show that it works in order to have possession"). The written description requirement "requires an objective inquiry into the four corners of the specification from the perspective of a person of ordinary skill in the art" *Ariad*, 598 F.3d at 1351. "Based on that inquiry, the specification must describe an invention understandable to that skilled artisan and show that the inventor actually invented the invention claimed." *Id.* In other words, "it is the specification itself that must demonstrate possession." *Id.* at 1352. The requirement "does not demand any particular form of disclosure" in the specification "or that the specification recite the claimed invention *in haec verba*." *Id.* (citations omitted).

Federal Circuit precedent has also made clear that "the written description requirement does not demand either examples or an actual reduction to practice; a constructive reduction to practice that in a definite way identifies the claimed invention can satisfy the written description requirement." *Id.* (citing *Falko-Gunter Falkner v. Inglis*, 448 F.3d 1357, 1366–67 (Fed. Cir. 2006)). As during trial, Opponents conflate written description with enablement. Written description does not require "the patentee [to prove] to the skilled reader that the invention works, or how to make it work, which is an enablement issue." *Alcon Research Ltd. v. Barr Labs., Inc.*, 745 F.3d 1180, 1191 (Fed. Cir. 2014) (citing *Ariad*, 598 F.3d at 1352)). Opponents "had the burden to prove by clear and convincing evidence that the written description requirement was not met." *WBIP, LLC v. Kohler Co.*, 829 F.3d 1317, 1338 (Fed. Cir. 2016). The jury's finding that Opponents failed to do so is clearly supported by the evidence.

*a. The specification for the Group A patents shows possession of the claimed inventions in Brassica napus/canola.*

Opponents first challenge claims 1 and 33 of the '357 Patent, claim 5 of the '579 Patent, claim 5 of the '033 Patent, and claims 2 and 10 of the '880 Patent (which they refer to as the

"Asserted Group A Claims"). Opponents contend that those patents do not contain adequate written description with respect to the claimed implementation of the CSIRO "blueprint" in *Brassica napus*, i.e., canola. *See* Opponents' Br. at 5–13. Opponents largely ignore the legal standard at this stage. They cannot argue that the better interpretation of the evidence favors their position; they must instead establish that when the evidence is viewed in the light most favorable to Proponents, no reasonable jury could have rejected their contentions. They cannot do so.

Notably, Opponents' blanket contention that the Group A Patents lack adequate disclosure regarding *Brassica napus* or canola ignores the fact that asserted claim 1 of the '357 Patent and asserted claims 2 and 10 of the '880 Patent do not include any *Brassica napus* limitations. Their contentions that the specification does not support *Brassica napus* claims have no applicability whatsoever to these three claims, yet they lump them together with the other Asserted Group A Claims and contend that the jury's verdict should be reversed for them all. There is simply no basis for Opponents' JMOL with respect to these specific asserted claims.

Opponents' attack on the jury's verdict with respect to the remaining Group A claims should also be rejected. As shown by the evidence, the heart of the invention is the "blueprint" that allows the production of EPA and DHA in plants. The specification describes in exacting detail the groundbreaking experimental results that establish their possession of that invention, explains how the invention can be carried out in other plants, and points a skilled artisan reading the patents with particularity to oilseed crops—highlighting *Brassica napus*. Opponents concede that the specification lays out the inventors' transgenic experiments on *Arabidopsis thaliana* ("*Arabidopsis*") plants using an exogenous Δ6 pathway (with acyl-CoA desaturases) to produce LC-PUFAs. *E.g.*, Ex. 1 (JX-13 ('880 Patent)) at col. 57 l. 10–col. 64 l. 50, col. 73 l. 28–col. 76 l. 25, col. 84 l. 28–col. 86 l. 36. In addition, substantial—in fact, overwhelming—evidence showed

that at the time of the invention, it was well known in the art that such results in *Arabidopsis* could be replicated in other plants, and especially in oilseed crops such as *Brassica napus*. Trial Tr. at 281:20–283:10, 476:10–13, 622:11–628:7, 763:13–764:4, 1735:25–1736:3, 1737:21–1738:7, 1743:8–1744:3; *see also* Ex. 1 (JX-13 ('880 Patent)) at col. 57 ll. 25–28. For example, the specification explains that the skilled artisan should focus on using the blueprint in oilseed crops:

> An important goal in plant biotechnology is therefore the engineering of crop plants, particularly oilseed crops, that produce substantial quantities of LC-PUFA, thus providing an alternative source of these compounds. . . .
>
> Transgenic oilseed crops that are engineered to produce major LC-PUFA by the insertion of these genes have been suggested as a sustainable source of nutritionally important fatty acids.

*Id.* at col. 2 ll. 32–35, col. 3 ll. 58–61; *see also id.* at col. 10 ll. 20–21 ("More preferably, the plant is an oilseed plant."); *id.* at col. 40 ll. 13–19 ("When the production of ω3 LC-PUFA is desired it is preferable that the plant species which is to be transformed has an endogenous ratio of ALA to LA which is at least 1:1, more preferably at least 2:1. Examples include most, if not all, oilseeds such as linseed. This maximizes the amount of ALA substrate, available for the production of SDA, ETA, ETrA, EPA, DPA and DHA."); Trial Tr. at 1742:4–1743:23 (Dr. Kunst explaining why the specification would point the skilled artisan to oilseed crops).

The specification explicitly and repeatedly identifies the implementation of the blueprint specifically in *Brassica napus*:

> The plants of the invention may be: corn (*Zea mays*), ***canola* (*Brassica napus, Brassica rapa* ssp.)**, flax (*Linum usitatissimum*), alfalfa (*Medicago saliva*), rice (*Oryza saliva*), rye (*Secale cerale*), *sorghum* (*Sorghum bicolour, Sorghum vulgare*), sunflower (*Helianthus annus*), wheat (*Tritium aestivum*), soybean (*Glycine max*), tobacco (*Nicotiana tabacum*), potato (*Solanum tuberosum*), peanuts (*Arachis hypogaea*), cotton (*Gossypium hirsutum*), sweet potato (*Lopmoea batatus*), cassava (*Manihot esculenta*), coffee (*Cofea* spp.), coconut (*Cocos nucifera*), pineapple (*Anana comosus*), citrus tree (*Citrus* spp.), cocoa (*Theobroma cacao*), tea (*Camellia senensis*), banana (*Musa* spp.), avocado (*Persea americana*), fig (*Ficuscasica*), guava (*Psidium guajava*), mango

> (*Mangifer indica*), olive (*Olea europaea*), papaya (*Carica papaya*), cashew (*Anacardium occidentale*), macadamia (*Macadamia intergrifolia*), almond (*Prunus amygdalus*), sugar beets (*Beta vulgaris*), oats, or barley.

Ex. 1 (JX-13 ('880 Patent)) at col. 39 ll. 48–65 (emphasis added) (canola is second on list of embodiments);

> In one embodiment, the plant is an oilseed plant, ***preferably*** an oilseed crop plant. As used herein, an "oilseed plant" is a plant species used for the commercial production of oils from the seeds of the plant, the oilseed plant may be ***oil-seed rape*** (***such as canola***), maize, sunflower, soybean, *sorghum,* flax (linseed) or sugar beet. Furthermore, the oilseed plant may be other *Brassicas*, cotton, peanut, poppy, mustard, castor bean, sesame, safflower, or nut producing plants, the plant may produce high levels of oil in its fruit, such as olive, oil palm or coconut.

*id.* at col. 39 l. 66–col. 40 l. 8 (emphasis added) (canola is first preferred embodiment listed); and

> Preferably, the seed is derived from an oilseed plant. More preferably, the oilseed plant is ***oilseed rape*** (***Brassica napus***)[,] maize (*Zea mays*), sunflower (*Helianthus annuus*), soybean (*Glycine max*), *sorghum* (*Sorghum bicolor*), flax (*Linum usitatissimum*), sugar (*Saccharum officinarum*), beet (*Beta vulgaris*), cotton (*Gossypium hirsutum*), peanut (*Arachis hypogaea*), poppy (*Papaver somniferum*), mustard (*Sinapis alba*), castor bean (*Ricinus communis*), sesame (*Sesamum indicum*), *or* safflower (*Carthamus tinctorius*).

*id.* at col. 11 ll. 3–11 (emphasis added) (canola is first on list of preferred embodiments). And as Proponents' expert Dr. Ljerka Kunst explained, the identification of *Brassica napus* as the first or second preferred embodiment on these lists would inform the skilled artisan that *Brassica napus* was particularly "important" for the blueprint. Trial Tr. at 1744:4–1745:3. Therefore, substantial evidence supports the jury's finding that claim 33 of the '357 Patent, claim 5 of the '579 Patent, and claim 5 of the '033 Patent have adequate written description. *See* Trial Tr. at 1746:8–17; *see also id.* at 1750:20–24.

Opponents' scattershot contentions largely rehash their jury arguments and are insufficient to grant JMOL. First, Opponents contend that listing possible embodiments or applications of the blueprint does not demonstrate possession in *Brassica napus*. *See* Opponents' Br. at 5–8. But this

ignores the passages of the specification that guide a skilled artisan to implement the blueprint in oilseed crops (and the expert testimony in support thereof). *See* Ex. 1 (JX-13 ('880 Patent)) at col. 2 ll. 32–35, col. 3 ll. 58–61, col. 10 ll. 20–21, col. 40 ll. 13–19; Trial Tr. at 1742:4–1743:23. And there is nothing legally impermissible about using lists to convey possession of the claimed inventions to the skilled artisan. *See Bd. of Trustees of Leland Stanford Junior Univ. v. Chinese Univ. of Hong Kong*, 860 F.3d 1367, 1375 (Fed. Cir. 2017) (written description is satisfied where "'the essence of the original disclosure' conveys the necessary information—'regardless of *how* it' conveys such information, and even when the disclosure's 'words are open to different interpretations'" (alterations omitted) (emphasis in original) (quoting *In re Wright*, 866 F.2d 422, 424–25 (Fed. Cir. 1989))). Indeed, the lists here comply with the Federal Circuit's requirement of disclosing "either *a representative number of species* falling within the scope of the genus or structural features common to the members of the genus so that one of skill in the art can 'visualize or recognize' the members of the genus." *Ariad*, 598 F.3d at 1349–50. Thus, precedent requires a patentee to identify different embodiments of the invention in order to claim a genus.[3] *See id.*

The "laundry list" cases cited by Opponents have no bearing here. The rule set out in those cases merely states that the patentee cannot "simply describ[e] a large genus of compounds" so as to claim "particular species or sub-genuses." *Fujikawa v. Wattanasin*, 93 F.3d 1559, 1571 (Fed. Cir. 1996). It applies when the specification does not explicitly describe the claimed feature (what the cases call without an "*ipsis verbis*" description (*id.* at 1570)), and instead describes potential

[3] Contrary to Opponents' suggestion, Proponents did not argue that the possession standard was met merely because it would have been obvious to a skilled artisan that *Arabidopsis* was a model for other plants. *See* Opponents' Br. at 8–9. Instead, evidence that the skilled artisan knew that *Arabidopsis* was a model plant is relevant to the written description, given that the inquiry is viewed through the lens of the skilled artisan. *See, e.g.*, *Streck, Inc. v. Research & Diagnostic Sys., Inc.*, 665 F.3d 1269, 1285–87 (Fed. Cir. 2012) (patentee can rely on what is well-known in the art to meet written description standard).

combinations. In *Fujikawa*, for example, the Court held that there was no adequate written description of a particular chemical compound that was *described nowhere* in the specification, and that the patentee's attempt to capture the compound by identifying a "'laundry list' of *every possible* moiety for *every possible* position," was insufficient. *Id.* at 1571 (emphasis added). That principle is far off from this case, where the patent specification expressly identifies *Brassica napus* multiple times as a preferred embodiment, and does so as the first or second listed option. *See supra* at 6–7. The other cases cited by Opponents articulate the same inapposite principle set out in *Fujikawa*—i.e., that listing limitless possibilities without describing the specific item claimed or providing guidance as to how to choose from a long list does not satisfy the written description requirement.[4] In contrast, the Group A specification does not provide limitless possibilities or combinations to sort through. It is not the law that merely because the specification *also* lists *other* embodiments besides *Brassica napus*, it somehow does not adequately support the claimed inventions. *See Novozymes A/S v. Danisco A/S*, No. 1:10-CV-251 (BBC), 2011 WL 13210090, at *3–6 (W.D. Wis. Feb. 4, 2011) (denying motion for summary judgment of invalidity for lack of written description, approvingly citing *Application of Driscoll*, 562 F.2d 1245 (C.C.P.A. 1977), for the acceptability of "describing multiple possibilities in the specification so long as each

[4] *Purdue Pharma L.P. v. Iancu*, 767 F. App'x 918, 923–24 (Fed. Cir. 2019) (holding that a claim to a particular mixture of two particular gelling agents—PEO and HPMC—did not have sufficient written description where the specification stated only that "various gelling agents can be employed including, for example and without limitation" but nowhere suggesting that PEO and HPMC should be mixed together); *Charleston Med. Therapeutics, Inc. v. AstraZeneca Pharm. LP*, No. 2:13-CV-2078 (RMG), 2016 WL 7030743, at *12 (D.S.C. Feb. 19, 2016) (holding that written description requirement was not met where the patent only described that one or more of nine categories of chemical compounds or combinations thereof might be useful in treating more than 90 diseases); *Phigenix, Inc. v. Genentech, Inc.*, 238 F. Supp. 3d 1177, 1187–88 (N.D. Cal. 2017) (holding that application that merely mentioned breast cancer but did not contain any direction towards using the cancer drug to treat breast cancer provided insufficient written description because it was a "disclosure of every possible species in the genus").

is 'alternatively usable for the purposes of the invention,'" and distinguishing *Fujikawa* on the ground that the Court did not suggest that it was broadly holding that all specifications including a large number of possible inventions fail to satisfy written description); *Erfindergemeinschaft UroPep GbR v. Eli Lilly & Co.*, 276 F. Supp. 3d 629, 655–56 (E.D. Tex. 2017) (denying motion JMOL for lack of written description and holding that "[i]t is common for patentees to disclose a range of possible embodiments," that "a patentee need not indicate that one embodiment is 'of special interest' in order to claim it," and that "[a] patentee is free to selectively claim one particular embodiment without running afoul of the written description requirement"), *aff'd*, 739 F. App'x 643 (Fed. Cir. 2018).

Second, Opponents assert that as a matter of law the disclosure of *Arabidopsis* data is insufficient to provide written description of the claimed invention in *Brassica napus*, canola, or any other plants. *See* Opponents' Br. at 9. Precedent holds otherwise. Written description does not turn on whether there is data from *Brassica napus* or any other plants identified in the specification because actual reduction to practice is not necessary. *Ariad*, 598 F.3d at 1352 ("We have made clear that the written description requirement does not demand either examples or an actual reduction to practice; a constructive reduction to practice that in a definite way identifies the claimed invention can satisfy the written description requirement." (citing *Falko*, 448 F.3d at 1366–67)). It is enough that, despite whatever level of unpredictability there may have been in the art, the skilled artisan would have understood that the *Arabidopsis* data was representative of what would happen when practicing the claimed inventions in other plants, including *Brassica* or canola.[5] *See Streck, Inc. v. Research & Diagnostic Sys., Inc.*, 665 F.3d 1269, 1286–87 (Fed. Cir.

[5] Opponents insist that the evidence at trial established that *Arabidopsis* and canola are very different types of plants. *See* Opponents' Br. at 10–11. But the jury was entitled to weigh all the evidence about the similarities and differences and draw its own conclusion about whether these

2012) ("[T]he mere fact that Ryan chose to reduce his invention to practice using a reticulocyte analog rather than a true reticulocyte is not relevant to the written description inquiry. . . . The district court properly concluded that one skilled in the art would have recognized that the claimed integrated controls could be made using either true reticulocytes or reticulocyte analogs. This is particularly true given the evidence that analogs are designed to mimic true reticulocytes and that use of true reticulocytes in stand-alone controls was well-known in the prior art. Given the language in the patents-in-suit, coupled with the well-known use of true reticulocytes in the prior art, a person of ordinary skill would understand the patent to include integrated controls using true reticulocytes."); *see also supra* at 5–6 (discussing *Arabidopsis* as a model for *Brassica napus*).

Third, Opponents point to CSIRO's alleged failures in obtaining LC-PUFAs in canola as evidence of inadequate written description. *See* Opponents' Br. at 9–10, 11–12. The contention is both factually erroneous and legally irrelevant. Again, written description does *not* require an actual reduction to practice. *Ariad*, 598 F.3d at 1352 (citing *Falko*, 448 F.3d at 1366–67). The written description inquiry also does not consider experimental results or the (alleged) lack thereof beyond what is disclosed in the specification. *Cf. Allergan*, 796 F.3d at 1309 ("[T]he district court erred by relying on the undisclosed clinical protocol to support its written description determination. As we have explained, it is the disclosures of the applications that count. The clinical protocol is not part of the specifications of the asserted patents. It should not form the basis of the written description inquiry, even if it shows that the inventors had invented the claimed invention before the time of filing. The written description requirement requires possession *as*

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plants were so different such that there was inadequate written description. Despite whatever differences there are between *Arabidopsis* and canola, the jury reasonably concluded that a skilled artisan would have known that the *Arabidopsis* data in the specification would reflect data in other plants, including *Brassica napus*. *See, e.g.*, Trial Tr. at 622:11–628:7, 636:1–12; 763:13–19, 1378:8–14, 1647:1–18; 1735:8–1738:19, 1743:8–16.

*shown in the specification*, not as shown by prior experimental work." (emphasis added) (alteration and quotation marks omitted)). Whether CSIRO or anyone else could practice the claimed invention is legally irrelevant as to the adequacy of a written description. *See, e.g.*, *Alcon Research Ltd. v. Barr Labs., Inc.*, 745 F.3d 1180, 1191 (Fed. Cir. 2014) ("[W]ritten description is about whether the skilled reader of the patent disclosure can recognize that what was claimed corresponds to what was described; it is not about whether the patentee has proven to the skilled reader that the invention works, or how to make it work, which is an enablement issue." (citing *Ariad Pharm., Inc. v. Eli Lilly & Co.*, 598 F.3d 1336, 1352 (Fed. Cir. 2010) (en banc))). Tellingly, though Opponents (erroneously) argued that CSIRO could not obtain LC-PUFAs from canola at the time of the priority filing, they *never* challenged the validity of the Group A patents for lack of *enablement*.

To be clear, the evidence showed that CSIRO not only knew how to transform canola without information or input from BASF, but it also obtained immediate success once it actually decided to begin transforming canola. Trial Tr. at 535:13–537:7, 650:11–662:21, 666:14–670:13, 670:22–671:20, 762:12–764:17, 779:16–780:4, 1495:18–1502:2, 1502:23–1507:13, 1511:5–1532:25, 1558:18–1560:10, 1632:16–1633:13, 1638:20–1640:9, 1641:16–1643:2, 1644:23, 1645:10–1647:24; Ex. 2 (PX-377 (2008 Petrie Lab Notebook)), Ex. 3 (PX-348 (2006 Petrie Lab Notebook)), Ex. 4 (PX-361 (2009 Petrie Lab Notebook)); Ex. 5 (CX-701 (Singh 2000)). Dr. Singh and Dr. James Petrie explained that after reducing to practice the blueprint in 2004–2005, CSIRO spent many years "optimizing" the blueprint. *Id.* In contrast to BASF, CSIRO elected not to transform canola at the outset, but instead to focus its resources on identifying the most efficient combinations of desaturases and elongases that could be used in the Δ6 pathway. *Id.* CSIRO undertook this approach to avoid a lengthy and expensive experimentation process in transforming

canola with inefficient combinations of enzymes. *Id.* As proven by its current ability to produce much higher levels of DHA, that approach facilitated a faster and less costly commercialization process. *Id.* Though optimization took many years, when CSIRO decided to "push the button [on] canola" the transformation yielded an efficient and commercially-viable combination of enzymes "on the first go."[6] Trial Tr. at 1006:18–21, 1647:12–18.

Fourth and finally, Opponents complain that the Court's failure to include a sentence about the alleged rule from the "laundry list" cases in its jury instruction about written description prejudiced them. *See* Opponents' Br. at 8. Opponents have cited no authority for why an alleged instructional error should be remedied by a JMOL, and it makes little sense to do so by reversing the jury's verdict. But fundamentally, a legally accurate jury instruction cannot be prejudicial. "[A] jury verdict generally [cannot] be set aside, on motion for judgment as a matter of law or new trial, based on erroneous [jury] instructions unless the movant can establish that the instructions were legally erroneous and that the errors had a prejudicial effect." *Bettcher Indus., Inc. v. Bunzl USA, Inc.*, 661 F.3d 629, 638–39 (Fed. Cir. 2011) (citing *Therasense, Inc. v. Becton, Dickinson & Co.*, 593 F.3d 1325, 1331 (Fed. Cir. 2010)). Here, the Court correctly instructed the jury as to what written description requires under Federal Circuit precedent. *See* Final Jury Instructions (docketed on Nov. 1, 2019) at Instruction No. 29 (tracking model written description jury instruction from the Federal Circuit Bar Association ("FCBA")); *see also* FCBA, Model Patent

[6] Because CSIRO did obtain LC-PUFAs from transgenic canola, Opponents' analogies to *Idenix Pharms. LLC v. Gilead Scis., Inc.*, Nos. 13-1987-LPS, 14-109-LPS, 14-846-LPS, 2016 WL6901742, at *2 (D. Del. Nov. 22, 2016) and *Wyeth v. Abbott Labs.*, Nos. 08-230 (JAP), 08-1021(JAP), 2012 WL 175023, at *8 (D.N.J. Jan. 19, 2012) are inapposite. Further, the Court should reject these cases to the extent they are inconsistent with Federal Circuit precedent. *See Alcon Research*, 745 F.3d at 1191 ("[W]ritten description is . . . is *not about whether the patentee has proven to the skilled reader that the invention works, or how to make it work*, which is an enablement issue." (emphasis added) (citing *Ariad*, 598 F.3d at 1352 (en banc)).

Jury Instructions at 40, *available at* https://fedcirbar.org/IntegralSource/Model-Patent-Jury-Instructions (citing Federal Circuit precedent for model written description instruction). In particular, the instruction accurately explained how written description does not require proof that the claimed invention works. *Compare, e.g.*, Final Jury Instructions (docketed on Nov. 1, 2019) at Instruction No. 29 ("The written description requirement does not require Proponents to prove to the skilled reader that the invention works."), *with Alcon Research*, 745 F.3d at 1191 ("[W]ritten description is . . . *not about whether the patentee has proven to the skilled reader that the invention works* . . . ." (emphasis added) (citing *Ariad*, 598 F.3d at 1352 (en banc)). The need for this explanation was brought about by Opponents as they prejudicially suggested to the jury throughout trial—and continue to wrongly advocate in their post-trial briefing—that written description requires an actual reduction to practice. *See, e.g.*, Trial Tr. at 1331:14–1332:2. *But see Ariad*, 598 F.3d at 1352 ("We have made clear that the written description requirement does not demand either examples or an actual reduction to practice . . . ." (citing *Falko*, 448 F.3d at 1366–67)). Notably, Opponents do not argue that any of the instructions are legally erroneous.

Instead, they complain that the Court omitted any additional explanation about the "laundry list" cases. *See* Opponents' Br. at 8. This complaint is meritless. First, the Court correctly conveyed the written description inquiry to the jury—i.e., possession of the claimed subject matter as disclosed in the specification—without the need for incorporating the alleged rule from these cases. *See, e.g.*, *Chiron Corp. v. Genentech, Inc.*, 363 F.3d 1247, 1259 (Fed. Cir. 2004) ("Chiron argues that this instruction invited the jury to apply a test that does not correspond to this court's written description law. This [C]ourt again rejects Chiron's argument. Once again, though using different words, the district court's instruction captures the essence of the written description doctrine that a patent cannot claim priority to earlier applications if it includes new matter not

present in those earlier disclosures."); *see also Trading Techs. Int'l, Inc. v. eSpeed, Inc.*, 595 F.3d 1340, 1360 (Fed. Cir. 2010) ("This jury instruction comports with this [C]ourt's law on written description. Moreover this instruction gave the jury adequate information to make a decision based on the possession standard of this [C]ourt. This [C]ourt finds that the jury instruction was not legally erroneous."). Second, omitting this rule did not mislead the jury in any way—in fact, just the opposite, as the "laundry list" cases cited by Opponents are inapplicable to the present case for the reasons explained earlier. *See supra* at 8–10 (distinguishing "laundry list" cases); *see also Mendenhall v. Cedarapids, Inc.*, 5 F.3d 1557, 1565 (Fed. Cir. 1993) (no error in district court's omission of proposed jury instruction as it was inapplicable to the facts of the case). The jury's verdict finding the asserted claims of the Group A patents valid should not be disturbed.

*b. The specification for the Group B patent shows possession of the specific combination of enzymes.*

Likewise, the jury correctly found that the relevant specification provided sufficient written description for asserted claim 4 of the '792 Patent. The '792 Patent recites a transgenic *Brassica* seed comprising the following exogenous enzymes: Δ6 elongase, *Ostreococcus tauri* Δ6 desaturase, *Thraustochytrium* sp. Δ5 desaturase, *Ostreococcus tauri* Δ5 elongase, and *Pavlova lutheri* Δ4 desaturase. Ex. 6 (JX-12 ('792 Patent)) at asserted claim 4. The specification explains that the inventors identified an *efficient* combination of microalgal enzymes using *Micromonas pusilla* to transform canola. *Id.* at col. 120 l. 38–col. 121 l. 67. In particular, the inventors noted that the Δ6 desaturase from *M. pusilla* was highly efficient in converting ALA to SDA (a necessary precursor to producing EPA) and that it also had an acyl-CoA preference. *Id.* at col. 83 l. 34–col. 84 l. 50. This level of activity from the *M. pusilla* Δ6 desaturase was also exhibited by the closely-related Δ6 desaturase from *O. tauri* (another microalgae). *See id.*; *see also id.* at col. 26 ll. 36–48 ("FIG. 12. Conversion efficiencies of enzymes constituting the EPA pathways infiltrated into *N.*

*benthamiana*. The EPA pathways contain a Δ6-desaturase (Echium plantagineum Δ6-desaturase, *Ostreococcus tauri* Δ6-desaturase or *Micromonas pusilla* Δ6-desaturase) . . . . Panel a. shows the ω3 pool conversion efficiencies for each pathway; b. contains direct comparisons between the *O. tauri* pathway, the *M. pusilla* pathway and a pathway containing both acyl-CoA desaturases."); *id.* at col. 79 l. 34–col. 86 l. 23 (example 4 examined Δ6 desaturases from microalgae); *id.* at col. 120 l. 39–col. 125 l.16 (examples 16 and 17 examined, among other microalgal enzymes, Δ6 desaturase from *M. pusilla*); *id.* Figs. 7–10, 12. The specification also explains that:

> The desaturase, elongase and acyl transferase proteins and genes encoding them that may be used in the invention are any of those known in the art or homologues or derivatives thereof. Examples of such genes and encoded protein sizes are listed in Table 1. The desaturase enzymes that have been shown to participate in LC-PUFA biosynthesis all belong to the group of so-called "front-end" desaturases. . . .
>
> In an embodiment, the desaturase is a Δ5 or Δ6 desaturase, examples of which are provided, but not limited to, those listed in Table 2.

*Id.* at col. 32 ll. 1–7, col. 36 ll. 16–18 (emphasis added); *see also id.* at col. 4 ll. 48–49 ("The desaturase preferably has greater activity on an acyl-CoA substrate than a corresponding acyl-PC substrate."); *id.* at col. 8 ll. 35–38 ("In a further embodiment, one or more or all of the desaturases expressed from exogenous polynucleotides in the cell of the invention have greater activity on an acyl-CoA substrate than the corresponding acyl-PC substrate."); *id.* at col. 76 ll. 57–66.

The skilled artisan reading these excerpts would naturally be led to Tables 1 and 2 of the specification, where each of the specific enzymes of the asserted claim is identified. *Id.* at tables 1 and 2; *see also id.* at cols. 129–242 (providing amino acid and nucleotide sequences for enzymes); *id.* at col. 3 ll. 40–64, col. 36 ll. 54–63, col. 76 ll. 57–62 (*Ostreococcus tauri* Δ5 elongase); *id.* at col. 15 ll. 26–29 (*Pavlova lutheri* Δ4 desaturase: "In an embodiment, the desaturase or elongase according to the invention can purified from microalga. Preferred

microalgae are *Pavlova* spp, *Pyramimonas* spp and *Micromonas* spp."). Tables 1 and 2 guide and direct the skilled artisan to *specific* enzymes (e.g., grouped by functionality) from organism (e.g., microalgae) that can be used in a specifically identified combination, to work in a particularly identified sequence. Dr. Kunst confirmed the adequacy of the written description at trial. *See* Trial Tr. at 1754:22–1759:19, 1889:18–1891:9. Therefore, substantial evidence supports the jury's finding that claim 4 of the '792 Patent has adequate written description.

There is no clear and convincing evidence to invalidate the asserted claim for lack of written description. Despite Opponents' protests otherwise, *see* Opponents' Br. at 13–15, Dr. Kunst explained how the skilled artisan would read the specification's explicit disclosures and be led to the claimed combination of enzymes, Trial Tr. at 1754:22–1759:19, 1889:18–1891:9. Specifically, she explained how the skilled artisan would logically be directed to tables 1 and 2, which then have a defined a list of preferred enzymes for use in a specific step of the claimed blueprint. *See id.* at 1754:22–1759:19, 1889:18–1891:9. The jury was entitled to credit her testimony and not that of their expert, Dr. Murphy. This is especially so where much of Dr. Murphy's written description testimony as to the '792 Patent was legally irrelevant. *See id.* at 1334:20–1335:5 (opining that CSIRO never used the claimed combination of enzymes and that CSIRO did not discover each individual enzyme); *see also* Opponents' Br. at 15. And what remains is Dr. Murphy's opinion that the exact claimed combination is not spelled out in the specification. *See* Trial Tr. at 1333:25–1334:12. But written description does not require an exact recitation of the claimed combination. *Ariad*, 598 F.3d at 1352 (written description "requirement does not demand . . . that the specification recite the claimed invention *in haec verba*") (en banc). The jury correctly rejected his testimony.

Opponents also cite evidence related to the MTEA dispute in support of their written

description argument regarding the '792 Patent. *See* Opponents' Br. at 13 (arguing that claimed subject matter "was taken" from BASF under the MTEA), 15. But the written description requirement examines only the adequacy of the disclosures contained within the four corners of the specification. *Cf. Allergan*, 796 F.3d at 1309 ("[T]he district court erred by relying on the undisclosed clinical protocol to support its written description determination. . . . [I]t is the disclosures of the applications that count."). And, as Proponents have already explained in their post-trial briefing, nothing claimed in the '792 Patent was derived from the MTEA.[7] *See generally* Proponents' Memorandum in Support of Motions for Judgment as a Matter of Law and a New Trial Under Fed. R. Civ. P. 50(b) and 59 ("Proponents' JMOL") (Dkt. No. 853) at 5–12.

In sum, because substantial evidence supports the jury's findings that none of the asserted claims of the Group A and Group B patents are invalid for lack of written description, the Court should not overturn the jury's verdict on these issues.

**2. Asserted claim 1 of the '357 Patent and asserted claim 2 of the '880 Patent have a February 2003 conception date.**

Substantial evidence supports the jury's finding that CSIRO conceived of the claimed subject matter in asserted claim 1 of the '357 Patent and asserted claim 2 of the '880 Patent in

[7] Opponents assert that the jury's co-ownership finding on the '792 Patent implicitly means that it concluded that CSIRO improperly targeted BASF's proprietary enzymes in the '792 Patent. *See* Opponents' Br. at 15. This has no bearing on written description as it is a separate issue from ownership. Written description is assessed from the four corners of the specification, *regardless* of where the disclosures therein came from. If anything, there is *adequate* written description for the asserted claim of the '792 Patent because Opponents' ownership claim is predicated on CSIRO using all the information that it received from BASF to prosecute the '792 Patent. Additionally, the jury's finding of co-ownership does not mean that CSIRO improperly targeted BASF's proprietary enzymes. Again, there is nothing wrong with filing patent claims covering competitor products or information in the public domain. *See* Proponents' Memorandum in Support of Motions for Judgment as a Matter of Law and a New Trial Under Fed. R. Civ. P. 50(b) and 59 (Dkt. No. 853) at 8–9 & nn. 4–5.

February 2003.[8] Conception is the formation of a definite and permanent idea of a complete and operative invention. *E.g.*, *Burroughs Wellcome Co. v. Barr Labs., Inc.*, 40 F.3d 1223, 1228 (Fed. Cir. 1994). The required independent corroboration of inventor testimony regarding conception is a question of fact. *NFC Tech., LLC v. Matal*, 871 F.3d 1367, 1371 (Fed. Cir. 2017) (citing *Fleming v. Escort Inc.*, 774 F.3d 1371, 1377 (Fed. Cir. 2014)). There is no rigid evidentiary requirement for corroboration, which is governed by a flexible "rule of reason" standard:

> There is no particular formula that an inventor must follow in providing corroboration of his testimony of conception. Instead, corroboration is determined by a *rule of reason* analysis, in which *an evaluation of all pertinent evidence must be made* so that a sound determination of the credibility of the inventor's story may be reached. Under the rule of reason, the evidence must be considered as a whole, not individually. Thus, *an inventor's conception can be corroborated even though no one piece of evidence in and of itself establishes that fact, and even through circumstantial evidence*. At bottom, the goal of the analysis is to determine whether the inventor's story is credible.

*NFC Tech., LLC v. Matal*, 871 F.3d 1367, 1371–72 (Fed. Cir. 2017) (emphasis added) (alterations, quotation marks, and citations omitted). The corroboration threshold is also low. The "corroboration requirement has never been so demanding" such that the corroborating evidence must "constitute[] definitive proof of [the inventor's] account or disclose[] each claim limitation as written." *Fleming*, 774 F.3d at 1377; *see also TransWeb, LLC v. 3M Innovative Props. Co.*, 812 F.3d 1295, 1302 (Fed. Cir. 2016) ("[W]e have repeatedly rejected an element-wise attack on corroboration of oral testimony." (citations omitted)); *Lazare Kaplan Int'l, Inc. v. Photoscribe Techs., Inc.*, 628 F.3d 1359, 1374 (Fed. Cir. 2010) ("Although oral testimony asserted to invalidate a patent must be corroborated, as we have explained in a similar context, this court has 'not imposed an impossible standard of "independence" on corroborative evidence by requiring that

[8] Opponents do not question the sufficiency of the evidence as it relates to the issues of diligence and reduction to practice.

every point be corroborated by evidence having a source totally independent of the witness.'" (alterations and ellipses omitted) (quoting *Knorr v. Pearson*, 671 F.2d 1368, 1374 (C.C.P.A. 1982))). The purpose of corroboration is to assess the totality of the evidence to determine whether the inventor is credible. *See NFC*, 871 F.3d at 1372.

As an initial matter, Opponents are procedurally barred from challenging the February 2003 conception date for asserted claim 1 of the '357 Patent and asserted claim 2 of the '880 Patent. A party aggrieved by a judgment may only challenge the judgment if it would result in an enlargement of the aggrieved party's rights or lessen the rights of its adversary under the judgment. *E.g.*, *Bailey v. Dart Container Corp. of Mich.*, 292 F.3d 1360, 1362 (Fed. Cir. 2002). The aggrieved party cannot challenge the judgment if its rights would under the judgment would remain the same if successful. *See id.* That is exactly what would happen here. First, Opponents are not even challenging the jury's obviousness verdict as to these claims. Second, Opponents' obviousness challenge to these claims relied upon three references: Kinney, Sayanova and Domergue. *See generally* Trial Tr. at 1344:16–1363:14. The relevant priority dates for these references are identified in the chart that follows:

| Reference | Relevant Prior Art Date | Abbreviations Hereinafter |
|---|---|---|
| Kinney | February 2004 | Kinney 2004 |
| Sayanova | Sometime in 2004 | Sayanova 2004 |
| Domergue | No earlier than June 2003 | Domergue 2003 |

*See id.* The jury's finding of a 2003 conception date for these asserted claims cannot be attacked as setting it aside would not affect their validity. The jury found that Kinney 2004, Sayanova 2004, and Domergue 2003 did not even render the *other* asserted claims in the Group A patents with a *later* conception date (i.e., April 2005) obvious. *See* Verdict Form (Dkt. No. 788) at 3.

Notwithstanding this procedural bar, substantial evidence showed that the inventors

conceived of these asserted claims in February 2003, which are generally directed to EPA production in plants. *See* Ex. 7 (JX-10 ('357 Patent)) at claim 1; Ex. 1 (JX-13 ('880 Patent)) at claim 2. Dr. Singh explained that the inventors began working with and transforming canola to produce monounsaturated fatty acids no later than 2000. *See* Trial Tr. at 535:13–539:12; Ex. 5 (CX-701 (Singh 2000)). Afterwards, the inventors conceived of transforming plants (particularly canola) to produce LC-PUFAs such as EPA using exogenous enzymes from the Δ6 pathway—in particular, desaturases with acyl-CoA preference—no later than February 2003. *See* Trial Tr. at 539:13–543:24, 545:24–546:21, 550:21–560:4, 564:3–588:7, 622:11–624:15, 625:20–626:10, 627:1–629:21, 636:1–12, 637:16–638:12, 644:18–645:7, 649:17–650:2, 763:8–765:16, 773:8–780:4, 1632:16–1639:24, 1641:16–1643:2, 1692:24–1693:18; Ex. 8 (CX-182 (Agrifood Top 5–Project Information)), Ex. 9 (PX-337 (1997-2005 Singh Lab Notebook)), Ex. 10 (CX-184 (CSIRO Spreadsheet)). To prove that their idea would work, they settled upon transforming *Arabidopsis* with animal genes, including a bifunctional Δ6/Δ5 desaturase from zebrafish, which had a preference for acyl-CoA substrates.

Contemporaneous documents lend credence to Dr. Singh's conception testimony. First, Dr. Singh had a lab notebook with a February 10, 2003 entry that showed that the inventors were already attempting to isolate candidate genes for its Δ6 pathway construct. *See* Ex. 9 (PX-337 (1997-2005 Singh Lab Notebook)) at CSI00082093 (attempting to isolate a Δ6 desaturase from microalgae); *see also id.* at CSI00082096–97; Trial Tr. at 777:9–778:14. Second, there was a February 20, 2003 proposal that sought funding for the transformation of *Arabidopsis* using a Δ6 pathway construct. *See* Ex. 8 (CX-182 (Agrifood Top 5–Project Information)) at CSI00091489 ("Catalytic activity and regulation of [genes for the synthesis of SDA, EPA, DHA] will be studied in . . . the model plant, *Arabidopsis*. Sets of genes demonstrated to be capable of directing the

synthesis of SDA (initially) and EPA & DHA (subsequently) will be transferred to canola and their expression targeted to the developing seed to produce canola oils containing SDA, EPA, and DHA."); *id.* (outputs of project included "[i]dentified strains of marine microorganisms containing genes encoding valuable ω3 fatty acids" and "[n]ovel genes encoding Δ6, Δ5, and Δ4 desaturases and fatty acid elongases involved in the aerobic pathway for ω3 fatty acid synthesis"); *id.* at CSI00091491 (detailed project plan included: identifying and cloning novel genes for "Δ6, Δ5, and Δ4 desaturases and fatty acid elongases"; expressing candidate "Δ5 and Δ6 desaturase and fatty acid elongase genes in . . . *Arabidopsis* to validate function"; and expressing "confirmed ω3 fatty acid synthesis genes from desaturase pathway in canola to produce modified seed oils"); *see also* Trial Tr. at 574:9–575:20. Third, an April 28, 2003 document shows the ordering of supplies to facilitate the isolation of a Δ6/Δ5 desaturase from zebrafish. *See* CX-184; *see also* Trial Tr. at 1634:19–1637:15. This is particularly corroborative of Dr. Singh's conception testimony, as the inventors had no use for the zebrafish enzyme other than furthering the development of the claimed subject matter. *See Singh v. Brake*, 222 F.3d 1362, 1369 (Fed. Cir. 2000) ("[W]hen a putative inventor has obtained specific [materials] with no 'substantial use' other than to make the claimed [invention], that evidence is of significant corroborative value." (citing *Berges v. Gottstein*, 618 F.2d 771, 774–75 (C.C.P.A. 1980))).

Additionally, Dr. Petrie also corroborated Dr. Singh's testimony. He testified that as of March 2003, the inventors were already isolating candidate genes for its Δ6 pathway construct. *See* Trial Tr. at 1488:12–1495:17. For example, he was primarily responsible for isolating Δ6 pathway genes from *Pavlova* (a microalga). *See id.* This testimony was bolstered by a March 2003 lab notebook with an entry illustrating his isolation efforts. *See* Ex. 11 (CX-1200 (2003 Petrie Lab Notebook)) at CSI00080299. Based on all this evidence, the jury properly concluded

that Dr. Singh's testimony about the February 2003 conception date for claim 1 of the '357 Patent and claim 2 of the '880 Patent was credible. *NFC*, 871 F.3d at 1372 ("[A]n inventor's conception can be corroborated even though no one piece of evidence in and of itself establishes that fact, and even through circumstantial evidence. At bottom, the goal of the analysis is to determine whether the inventor's story is credible.").

Opponents seek to overturn the jury's verdict concerning the February 2003 conception date by examining each piece of corroborating evidence in isolation, which is contrary to precedent requiring examination of the evidence in its totality. *See* Opponents' Br. at 17–19. *But see NFC*, 871 F.3d at 1372 ("Under the rule of reason, the evidence must be considered as a whole, not individually."). On this basis alone, Opponents' JMOL motion on this issue can be denied.

Nevertheless, each piece of evidence corroborates Dr. Singh's conception testimony. Opponents complain that the February 10, 2003 lab notebook entry does not specifically call out "acyl-CoA desaturases, bifunctional enzymes, DHA production in seeds, or *Brassicaceae* plants." Opponents' Br. at 18. But this does not undermine Dr. Singh's testimony as they do not dispute that it illustrates that the inventors had already settled on a Δ6 pathway construct. *See TransWeb*, 812 F.3d at 1302 ("[W]e have repeatedly rejected an element-wise attack on corroboration of oral testimony."); *Fleming*, 774 F.3d at 1377. Opponents further complain that the notebook entry was neither witnessed nor signed. Opponents' Br. at 18. Unwitnessed lab notebook entries are not entirely deprived of any probative value, especially when there is other corroborating evidence. *See*, *e.g.*, *Apator Miitors ApS v. Kamstrup A/S*, 887 F.3d 1293, 1297 (Fed. Cir. 2018) (explaining that "an unwitnessed laboratory notebook, *alone*, cannot corroborate an inventor's testimony of conception" (emphasis added)); *Singh*, 222 F.3d at 1370 (explaining that *Mikus v. Wachtel*, 542 F.2d 1157, 1161 (C.C.P.A. 1976) held "that an invention record, based on an unwitnessed

laboratory notebook and results performed by technicians unaware of what they were testing, may provide sufficient evidence of conception but not reduction to practice under the rule of reason").

As for the February 23, 2003 funding proposal, Opponents incorrectly maintain that it must mention acyl-CoA desaturases or bifunctional enzymes. *See* Opponents' Br. at 19. Again, the rule of reason does not require explicit mention of claim elements. *See TransWeb*, 812 F.3d at 1302; *Fleming*, 774 F.3d at 1377. Opponents also suggest that research plans can never be evidence of corroboration. *See* Opponents' Br. at 18. That is not the law. There is "no per se rule exclud[ing] 'research proposals' as evidence of conception." *In re Jolley*, 308 F.3d 1317, 1323 (Fed. Cir. 2002). Funding proposals can serve as evidence of conception so long as the "idea[s] expressed therein [were] sufficiently developed to support conception of the [claimed] subject matter of the [asserted claims]." *Id.* at 1324. That standard is met here as Dr. Singh explained that the proposal was drafted *after* the inventors conceived of these asserted claims. *See* Trial Tr. at 574:9–575:20, 579:8–580:4. Indeed, they were seeking funding to begin actual reduction to practice. *See id.*; *see also* Ex. 8 (CX-182 (Agrifood Top 5–Project Information)) at CSI00091489.

With respect to the April 28, 2003 zebrafish order form, Opponents again mistakenly aver that it must recite specific elements from the asserted claims—it need not. *See TransWeb*, 812 F.3d at 1302; *Fleming*, 774 F.3d at 1377. And that the order form is dated after the February 2003 conception date does not render it irrelevant. *See Ohio Willow Wood Co. v. Alps S., LLC*, 735 F.3d 1333, 1348 (Fed. Cir. 2013) ("[E]vidence of corroboration can take many forms and such evidence does not become irrelevant to the credibility determination simply because a patentee questions whether it was created shortly after the critical date." (citing *Lazare*, 628 F.3d at 1375)).

Lastly, Opponents do not dispute that Dr. Petrie's testimony affirms Dr. Singh's conception testimony. Instead, they contend that as a matter of law a co-inventor's testimony can never

corroborate another inventor's conception testimony. *See* Opponents' Br. at 19–20 (citing *Allergan, Inc. v. Apotex Inc.*, 754 F.3d 952, 968 (Fed. Cir. 2014) and *Medichem, S.A. v. Rolabo, S.L.*, 437 F.3d 1157, 1170 (Fed. Cir. 2006)). But the law is not so broad. While co-inventor testimony may not be the *sole* source of corroboration evidence, the Federal Circuit has never held that co-inventor testimony and evidence in support of that testimony (i.e., Dr. Petrie's testimony and his March 2003 lab notebook) can never *supplement* other corroboration evidence (i.e., Dr. Singh's February 2003 lab notebook entry, the February 2003 funding proposal, and the April 2003 zebrafish order form). *See Dana-Farber Cancer Inst., Inc. v. Ono Pharm. Co.*, 379 F. Supp. 3d 53, 84 n.9 (D. Mass. 2019) ("Citing the Federal Circuit's decision in [*Medichem*], Defendants claim that the testimony of one co-inventor cannot be used to help corroborate the testimony of another at all. The Federal Circuit has not repeated this statement from *Medichem* in a published opinion, and this proposition of law appears to be an overbroad reading of the case the Federal Circuit cited." (quotation marks and citations omitted)). Thus, the jury was entitled to consider Dr. Petrie's supporting testimony on conception, as well as his lab notebook that corroborated both his and Dr. Singh's testimony. And in sum, substantial evidence supports the jury's conclusion that the inventors conceived of the asserted claims of the '357 and '880 patents in February 2003.

**3. CSIRO did not breach the MTEA, and BASF is not a Co-Owner of the Group A, Group D, or Group E patents.**

Substantial evidence supports the jury's finding that CSIRO did not breach the MTEA by using any new joint work product developed under the Agreement or any BASF confidential information to procure any of the Group A, Group D, or Group E patents. As Proponents have explained in their own JMOL motion, the evidence clearly establishes the opposite—that there is no rational evidentiary basis for the jury's conclusion that BASF co-owns the Group B patent. *See generally* Proponents' JMOL (Dkt. No. 853) at 5–12. As explained in that motion, under the plain

text of the MTEA none of the patents-in-suit claim "Joint New Materials," "Joint Transformed Lines," or "Joint Results"—the three undisputed categories over which the Agreement confers joint ownership rights to BASF. Ex. 12 (JX-52 (MTEA)) at CSI00106415–16. "Joint New Materials" is defined as "constructs [that] contain both CSIRO and BPS genes." *Id*. at CSI00106412. But the patents-in-suit undisputedly do not claim any subject matter has both CSIRO and BASF genes. Further, the patents-in-suit do not claim any "Joint New Materials" or "Joint Transformed Lines" as they are not directed to any joint constructs (DNA) or transformed lines (transgenic plants), respectively, that were collaboratively developed under the MTEA. And they do not claim any "Joint Results" because they do not claim or describe any results from the MTEA. *See* Ex. 13 (PX-222 (Joint Program on PUFA)) at CSI00106532 (results from the MTEA).

The evidence also showed that nothing jointly developed or confidentially obtained from BASF pursuant to the MTEA is claimed in any of the patents-in-suit. *See* Proponents' JMOL (Dkt. No. 853) at 6–12 (explaining ownership provisions and unfettered use of public information under the MTEA). Importantly, *all* of the witnesses with personal knowledge of the work developed under the MTEA or the information exchanged during the MTEA testified that CSIRO never used any "Joint Results" (let alone "Joint Transformed Lines" or "Joint New Materials") or BASF's confidential information to procure any of the patents-in-suit, even when BASF had an opportunity to raise this with CSIRO many years before the litigation between the parties began. *See id.* at 10–12 (citing witness testimony). And as to the Group A patents specifically,[9] it is factually and

[9] Opponents' arguments concerning the co-ownership of the '579 Patent and '033 Patent rely on *unasserted* claims that were never at issue during trial (claim 7 of the '579 Patent and claim 15 of the '033 Patent), which—critically—recite *different* combinations of enzymes. Opponents' Br. at 21. Opponents cannot argue that the jury should have found in their favor as to ownership of these patents, given that there was *no evidence* about these unasserted claims vis-à-vis the MTEA from which the jury could have concluded that Opponents own these patents. Opponents' motion for JMOL on the issue of ownership as to these particular patents should be denied on this basis alone.

legally impossible for them to claim anything that was new and jointly developed under the MTEA. Indeed, there was no dispute that those continuations patents, though filed after the MTEA's effective date of March 1, 2008, properly traced their priority back to a patent application filed in 2004. *See, e.g.*, Opinion and Order Regarding Remedies (Dkt. No. 821) ¶ 23. In other words, the U.S. Patent and Trademark Office could have only issued these continuation patents if the 2004 application provided adequate disclosures under 35 U.S.C. § 112 (and there was no dispute that the PTO erred in issuing these patents). *E.g.*, *Martek Biosciences Corp. v. Nutrinova, Inc.*, 579 F.3d 1363, 1369 (Fed. Cir. 2009) ("The test for sufficiency of support in a parent application is whether the disclosure of the application relied upon reasonably conveys to the artisan that the inventor had possession at that time of the later claimed subject matter." (alteration, quotation marks, and citation omitted)). Thus, BASF cannot co-own any of the Group A patents because the claimed subject matter was *already disclosed* by no later than *2004*. Even Dr. Bauer conceded this at trial.[10] *See* Trial Tr. at 1230:12–1231:7.

None of Opponents' other arguments warrant disturbing the jury's ownership verdict as to the Group A, D, and E patents. They argue that BASF co-owns two of the four Group A patents—

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Moreover, the JMOL should also be denied because BASF never asserted in its pretrial statement that it was alleging that it was a co-owner of any patent-in-suit due to the combination of enzymes claimed in the patent. *See* Proposed Final Pretrial Order (Dkt. No. 682) at 41–48. Instead, the only theory of co-ownership described in the statement is that BASF purportedly taught CSIRO how to produce LC-PUFAs in *Brassica napus* through the MTEA collaboration. But whatever was purportedly taught to CSIRO (something BASF was never able to articulate at trial) is not covered by the patents-in-suit.

[10] For these reasons, Opponents are wrong that the priority patent application had no relevance to the issue of co-ownership with respect to the Group A patents. *See* Opponents' Br. at 24–26. In fact, it is dispositive as Opponents never challenged, and thus conceded, that the later-filed patents properly claimed priority to the 2004 application and satisfied the requirements of § 112. (Even if the Court accepts that the 2005 patent application identified by Opponents is the proper priority patent application, the rationale here still applies, i.e., the claimed subject matter was publicly disclosed no later than 2005, which is still well before the effective date of the MTEA.)

the '579 and the '033 patents—and the Group B patent because they recite proprietary BASF enzymes and "used in the joint constructs prepared under the MTEA." Opponents' Br. at 20–22. Co-ownership, however, does not merely turn on the fact that BASF proprietary enzymes are claimed and used during the MTEA. The proprietary enzymes in these patents were publicly disclosed well before the MTEA. Trial Tr. at 1250:1–1251:24 (Dr. Bauer admitting this fact). The MTEA did not prevent CSIRO from filing patents on inventions using these proprietary enzymes. Proponents' JMOL (Dkt. No. 853) at 8–9 n.4 (citing *Clearstream Wastewater Sys., Inc. v. Hydro-Action, Inc.*, 206 F.3d 1440, 1445 (Fed. Cir. 2000) and Trial Tr. at 1075:13–24, 1259:10–1260:3). And use of BASF enzymes during the MTEA alone does not create joint ownership rights. BASF still had to show (and Opponents failed to do so at trial) that the enzymes were incorporated into "Joint New Materials," "Joint Transformed Lines," or "Joint Results" and such new work product was actually claimed in these patents. *See* Ex. 12 (JX-52 (MTEA)) at CSI00106415–16.

Opponents further argue that BASF co-owns the other two Group A patents, the '880 and '357 patents, because they bear "the fruits of the BASF-CSIRO collaboration." Opponents' Br. at 23. As explained above, however, this is contrary to the testimony from the witnesses with personal knowledge of the MTEA, and again it is both factually and legally impossible for BASF to co-own any Group A patent.[11] *See supra* at 26–27. Additionally, there was nothing improper about targeting BASF's commercial product in these patents. *See* Proponents' JMOL (Dkt. No.

[11] In support of co-ownership of the Group A patents, Opponents make much of an email from Dr. Singh in which he stated that 10% DHA was achievable in canola. Opponents' Br. at 24. As a preliminary matter, there should be no dispute that CSIRO knew how to transform canola well before it entered the MTEA. *See supra* at 12–13. In any event, the email is irrelevant as none of the Group A patents specifically claim or discuss 10% DHA. And to the extent it has any relevance, Opponents have mischaracterized the substance of the email. Dr. Singh explained that the evaluation under the MTEA showed that *CSIRO's genes* were more efficient at converting EPA to DPA/DHA. Trial Tr. at 691:9–697:18. This only contradicts Opponents' false narrative that BASF taught CSIRO everything it knew about transforming canola.

853) at 8 (citing *Kingsdown Med. Consultants, Ltd. v. Hollister, Inc.*, 863 F.2d 867, 874 (Fed. Cir. 1988)). The MTEA did not bar CSIRO from targeting BASF's commercial product if there was no follow-up agreement after the evaluation.[12]

Even more outlandishly, Opponents proclaim that BASF co-owns the Group D and E patents because the claimed fatty acid profiles in these patents are the result of a construct strategy identified in Schedule B of the MTEA.[13] *See* Opponents' Br. at 26–27 (citing MTEA at CSI000106428). Specifically, Opponents assert that the claimed fatty acid profiles in the Group D and E patents are a result of the constructs CSIRO and BASF designed containing at least an ω3-specific Δ6 desaturase and a fungal Δ15 desaturase (also known as ω3 desaturase). Ex. 12 (JX-52 (MTEA)) at CSI000106428. This is false. First, and importantly, *none* of the specific constructs identified in the MTEA is the construct that was used to procure the Group D and E patents. *See* Opponents' Br. at 28 (conceding that Group D and E patents and a 2012 CSIRO publication all discuss the same construct). In all of the MTEA joint constructs, either a Δ6 desaturase from *M. Pusilla* or *O. Tauri* are included with a **fungal Δ15 desaturase/ω3 desaturase from *Phytophtora infestans***, while the construct identified in the Group D and E patents include a Δ6 desaturase from *M. Pusilla* and **a fungal Δ15 desaturase/ω3 desaturase from *Pichia pastoris***. *Compare* Ex. 12 (JX-52 (MTEA)) at CSI000106428, *with* Ex. 14 (PX-122 (Petrie 2012)) at CSI000123407, Ex. 15 (JX-15 ('541 Patent)) at col. 74 ll. 29–46, *and* Ex. 16 (JX-17 ('084 Patent)) at col. 28 ll. 39–56. And, the strategy of including a ω3-specific Δ6 desaturase and a fungal Δ15 desaturase/ω3 desaturase was public knowledge and known well before CSIRO and

[12] Opponents again did not include any argument of this nature as to co-ownership in its pretrial statement, and thus it is waived. *See supra* at 26–27 n.9.

[13] Again, the ensuing arguments were also never raised in their pretrial statement, and thus are waived. *See supra* at 26–27 n.9.

BASF entered the MTEA. *See* Trial Tr. at 1607:17–1608:21; *see also* Ex. 17 (JX-11 ('033 Patent)) at fig. 1. Second, the Group D and E patents do not even specifically claim these enzymes or constructs. Third, there is no evidence, including expert testimony, that these specific MTEA constructs necessarily produce the claimed fatty acid profiles in these patents. In sum, because the Group D and E patents do not claim any joint work product or rely on confidential information from BASF under the MTEA, BASF cannot be a co-owner of these patents.

**B. Opponents are Not Entitled to a New Trial.**

For the same reasons stated above, no new trial should be granted for any of the issues raised by the Opponents, as none of the jury's conclusions are contrary to the great weight of evidence. Instead, the jury's conclusions in favor of Proponents were supported by overwhelming evidence. First, the explicit disclosures in the specification of the Group A and B patents coupled with Dr. Kunst's testimony more than adequately demonstrates possession of the claimed subject matter of the relevant asserted claims. Second, Dr. Singh's conception testimony was corroborated by contemporaneous documents showing that the inventors already had conceived of the claimed subject matter in the '357 and '880 patents by February 2003. His testimony was further corroborated by Dr. Petrie and his contemporaneous lab notebook entry. Third, not only does the plain language of the MTEA render it impossible for BASF to be a co-owner of the Group A, Group D, and Group E patents, but CSIRO *and* BASF witnesses with intimate familiarity of the Agreement testified that CSIRO never used any joint work product or confidential information from BASF to prosecute these patents. Therefore, Opponents are not entitled to a new trial.

## III. CONCLUSION

For the foregoing reasons, Proponents respectfully request that the Court deny Opponents' motions for JMOL and a new trial in their entirety.

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Respectfully submitted,

*/s/ Richard Ottinger*
Richard Ottinger (Virginia Bar #38842)
rottinger@vanblacklaw.com
Vandeventer Black LLP
101 West Main Street
500 World Trade Center
Norfolk, VA 23510
Telephone: (757) 446-8600
Facsimile: (757) 446-8670

Michael Ng (Admitted *Pro Hac Vice*)
michael.ng@kobrekim.com
Daniel Zaheer (Admitted *Pro Hac Vice*)
daniel.zaheer@kobrekim.com
Michael M. Rosen (Admitted *Pro Hac Vice*)
michael.rosen@kobrekim.com
Hartley M.K. West (Admitted *Pro Hac Vice*)
hartley.west@kobrekim.com
Kobre & Kim LLP
150 California Street, 19th Floor
San Francisco, California 94111
Telephone: (415) 582-4800
Facsimile: (415) 582-4811

Rebecca G. Mangold (Admitted *Pro Hac Vice*)
rebecca.mangold@kobrekim.com
Jonathan E. Barbee (Admitted *Pro Hac Vice*)
jonathan.barbee@kobrekim.com
Alexa Pearlman (Admitted *Pro Hac Vice*)
alexa.pearlman@kobrekim.com
George Stamatopolous (Admitted *Pro Hac Vice*)
george.stamatopolous@kobrekim.com
Kobre & Kim LLP
800 3rd Ave
New York, NY 10022
Telephone: (212) 488-1200
Facsimile: (212) 488-1220

Kimberly P. Cole (Admitted *Pro Hac Vice*)
kimberly.cole@kobrekim.com
Hugham Chan (Admitted *Pro Hac Vice*)
hugham.chan@kobrekim.com
Kobre & Kim LLP
1919 M Street, NW

Washington, DC 20036
Telephone: (202) 664-1900
Facsimile: (202) 664-1920

Matthew I. Menchel (Admitted *Pro Hac Vice*)
matthew.menchel@kobrekim.com
Laura M. Gonzalez (Admitted *Pro Hac Vice*)
laura.gonzalez@kobrekim.com
Kobre & Kim LLP
201 South Biscayne Boulevard
Suite 1900
Miami, FL 33131
Telephone: (305) 967-6100
Facsimile: (305) 967-6120

*Attorneys for Counterclaimant Commonwealth Scientific and Industrial Research Organisation*

Miranda Jones (Admitted *Pro Hac Vice*)
mirandajones@porterhedges.com
Andrew B. Raber (Admitted *Pro Hac Vice*)
araber@porterhedges.com
Megan Mon-Ting Luh (Admitted *Pro Hac Vice*)
mluh@porterhedges.com
Jonna N. Summers (Admitted *Pro Hac Vice*)
jsummers@porterhedges.com
Porter Hedges LLP
1000 Main Street, 36th Floor
Houston, TX 77002
Telephone: (713) 226-6000
Facsimile: (713) 226-1331

*Attorneys for Counterclaimant Grains Research and Development Corporation*

Lawrence M. Sung (Admitted *Pro Hac Vice*)
lsung@wileyrein.com
Teresa Summers (Admitted *Pro Hac Vice*)
tsummers@wileyrein.com
Wiley Rein LLP
1776 K Street, NW
Washington, DC 20006
Telephone: (202) 719-7000
Facsimile: (202) 719-7049

*Attorney for Counterclaimant Nuseed Pty. Ltd.*

**Certificate of Service**

I hereby certify that on February 4, 2020 I electronically filed the foregoing with the Clerk of Court using the CM/ECF system, which will send notification of such filing to all counsel of record.

/s/ *Richard Ottinger*
Richard Ottinger
Virginia Bar Number: 38842
rottinger@vanblacklaw.com
Vandeventer Black LLP
101 West Main Street
500 World Trade Center
Norfolk, VA 23510
Telephone: (757) 446-8600
Facsimile: (757) 446-8670

*Counsel for Counterclaimants*